



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,261	01/22/2004	Wataru Ito	3562-0135P	2576

2292 7590 11/01/2007
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

RASHID, DAVID

ART UNIT	PAPER NUMBER
----------	--------------

2624

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

11/01/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/761,261	Applicant(s) ITO, WATARU	
	Examiner David P. Rashid	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Amendments

1. This office action is responsive to the claim and specification amendment received on 9/24/2007. **Claims 2 – 14** remain pending; **claim 1** is cancelled.

Drawings

2. The replacement drawings were received on 9/24/2007 and are acceptable. In response to applicant's drawing amendments and remarks, the previous drawing objections are withdrawn.

Specification

3. In response to applicant's specification amendments and remarks received on 9/24/2007, the previous specification objections are withdrawn.

Claim Objections

4. In response to applicant's claim objections amendments and remarks received on 9/24/2007, the previous claim objections are withdrawn.

Art Unit: 2624

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2, 4 – 5, 7, and 11 – 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6,108,437 A) in view of Dobashi (US 2002/0126880 A1).

Regarding **claim 2**, while Lin a personal authentication apparatus (FIG. 1) for certifying that a user is the user (Col. 1, lines 64 - 67), comprising:

a memory (“database” in Col. 1, lines 64 – 67 and Col. 5, line 63 – Col. 6, line 3) holding a face-picture of the user therein;

an image pickup unit (FIG. 1, element 10) taking a face-picture (“image” in FIG. 1A) of said user (FIG. 1, element 1);

a particular person comparing unit (FIG. 9, elements 905 though 919; Col. 6, lines 48 - 67) comparing said user's face-picture taken by said image pickup unit with a face-picture of a particular person, who is categorized as suspected, held therein in advance (Col. 9, lines 48 - 56; FIG. 9, element 401), outputting as comparison result a degree of similarity therebetween (FIG. 9, elements 905 though 919 outputs a degree of similarity to elements 901,903 to identify the face), and deciding whether said degree of similarity is determined;

a personal picture acquiring unit (FIG. 1, element 40; FIG. 9, element 401) for acquiring the face-picture of the user from said memory (“database” in Col. 1, lines 64 – 67 and Col. 5, line 63 – Col. 6, line 3); and

Art Unit: 2624

an authentication unit (FIG. 1A, element 37; FIG. 9, elements 901, 903), when said degree of similarity is determined, deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter ("highest confidence level" in Col. 9, lines 56 – 61 considered "identical") than the method used therebefore, Lin does not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value.

Dobashi discloses a face image recognition apparatus (FIG. 1) that teaches a particular person comparing unit (FIG. 1, element 107) deciding whether a degree of similarity is higher than a predetermined value (paragraph [0055]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of Lin to decide whether a degree of similarity is higher than a predetermined value as taught by Dobashi "to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.", Dobashi, paragraph [0008].

Lin in view of Dobashi would then inherently have an authentication unit, when said degree of similarity is higher than said predetermined value (from the personal picture acquiring unit of Lin in view of Dobashi), deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therefore.

Regarding **claim 4**, while Lin in view of Dobashi discloses the personal authentication apparatus as claimed in claim 2, wherein when said degree of similarity is higher than said predetermined value, said authentication unit further identifies a similar face, Lin in view of Dobashi does not teach said authentication unit increasing the number of the features that are extracted from each of the user's face-picture and the face-picture of the user in order to decide with more strict reference.

Dobashi discloses a face image recognition apparatus (FIG. 1) wherein an authentication unit (FIG. 9, element 9) increases the number of the features (FIG. 9, elements 108, 109; paragraphs [0070], [0071]) that are extracted from each of the user's face-picture (FIG. 9, element 105) and the face-picture of the user (FIG. 9, element 100) in order to decide with more strict reference (paragraphs [0070], [0071] will thus create a "more strict reference").

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of Lin in view of Dobashi to increase the number of the features that are extracted from each of the user's face-picture and the face-picture of the user in order to decide with more strict reference as taught by Dobashi "to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.", Dobashi, paragraph [0008].

Regarding **claim 5**, while Lin in view of Dobashi discloses the personal authentication apparatus as claimed in claim 2, wherein when said degree of similarity is higher than said predetermined value, said authentication unit further identifies a similar face, Lin in view of

Art Unit: 2624

Dobashi does not teach said authentication unit further acquires new features of appearance of the user to decide with more strict reference, and decides whether or not the user's face-picture is identical with the face-picture of the user using the newly acquired features.

Dobashi discloses a face image recognition apparatus (FIG. 1) wherein an authentication unit (FIG. 9, element 9) further acquires new features of appearance (FIG. 9, elements 108, 109; paragraphs [0070], [0071]) of the user (FIG. 9, element 100) to decide with more strict reference (paragraphs [0070], [0071] will thus create a "more strict reference"), and decides whether or not the user's face-picture is identical with the face-picture of the user using the newly acquired features (FIG. 9, element 107).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of Lin in view of Dobashi to acquire new features of appearance of the user to decide with more strict reference, and decides whether or not the user's face-picture is identical with the face-picture of the user using the newly acquired features as taught by Dobashi "to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.", Dobashi, paragraph [0008].

Regarding **claim 7**, while Lin in view of Dobashi discloses the personal authentication apparatus as claimed in claim 2, wherein when said degree of similarity is higher than said predetermined value, said authentication unit further identifies a similar face, Lin in view of

Art Unit: 2624

Dobashi does not teach the authentication unit changes the type of the features that are extracted from each of the user's face-picture and the face-picture of the user.

Dobashi discloses a face image recognition apparatus (FIG. 1) wherein an authentication unit (FIG. 9, element 9) changes the type of the features (FIG. 9, elements 108, 109; paragraphs [0070], [0071]) that are extracted from each of the user's face-picture (FIG. 9, element 105) and the face-picture of the user based upon the comparison result ("recognition rate" in paragraph [0071]) by the particular person comparing unit (FIG. 9, element 107).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of Lin in view of Dobashi to change the type of the features that are extracted from each of the user's face-picture and the face-picture of the user based upon the comparison result by the particular person comparing unit as taught by Dobashi "to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.", Dobashi, paragraph [0008].

Regarding **claim 11**, while Lin discloses further comprising a person deciding apparatus (FIG. 13, element 100B; Col. 5, lines 5 - 16) installed in a place other than that of said personal authentication apparatus (FIG. 13, element 100A; FIG. 1A, element 37; FIG. 9, elements 901, 903), deciding whether or not said user is the user ("closest set" and "confidence level" in Col. 9, lines 48 - 56 wherein the user's face-picture is "similar" if the particular person comparing unit receives the face-picture from the face recognizer server), wherein when said degree of similarity determined, said authentication unit transmits (Col. 5, lines 5 - 16 sending the information from

Art Unit: 2624

100A to 100B) said user's face picture to said person deciding apparatus, Lin does not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value.

Dobashi discloses a face image recognition apparatus (FIG. 1) that teaches a particular person comparing unit (FIG. 1, element 107) deciding whether a degree of similarity is higher than a predetermined value (paragraph [0055]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of Lin to decide whether a degree of similarity is higher than a predetermined value as taught by Dobashi "to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.", Dobashi, paragraph [0008].

Regarding **claim 12**, while Lin discloses wherein the image pickup unit (FIG. 1, element 10) includes a first image pickup unit (FIG. 1, element 10; the image pickup unit before face alignment; Col. 6, lines 36 - 47) and a second image pickup unit (the image pickup unit after face alignment; Col. 6, lines 36 - 47),

the particular person comparing unit (FIG. 9, elements 905 through 919) compares the user's face-picture ("image" in FIG. 1A) taken by the first image pickup unit (FIG. 1, element 10; the image pickup unit before face alignment; Col. 6, lines 36 - 47) with the face-picture of the particular person (FIG. 1, element 1),

Art Unit: 2624

when said degree of similarity is not enough, said authentication unit (FIG. 1A, element 37; FIG. 9, elements 901, 903) decides whether or not the user's face-picture taken by the first image pickup unit is identical (the authentication unit automatically "decides" that the user's face-picture is not identical since no recognized face is present) with the face-picture of the user,

when said degree of similarity is not enough, said authentication unit decides whether or not the user's face-picture taken by the second image pickup unit (the image pickup unit after face alignment; Col. 6, lines 36 - 47) is identical (refer to references/arguments cited in claim 2) with the face-picture of the user, Lin does not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value.

Dobashi discloses a face image recognition apparatus (FIG. 1) that teaches a particular person comparing unit (FIG. 1, element 107) deciding whether a degree of similarity is higher than a predetermined value (paragraph [0055]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of Lin to decide whether a degree of similarity is higher than a predetermined value as taught by Dobashi "to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.", Dobashi, paragraph [0008].

Regarding **claim 13**, Lin discloses the personal authentication apparatus as claimed in claim 12, wherein the second image pickup unit generates a face-picture (the image pickup unit

Art Unit: 2624

after face alignment; Col. 6, lines 36 - 47) having more amount of information (once the face is aligned, feature extractor element 35, and voting circuit 37 may proceed to extract more information from the image) than that of the face-picture taken by said first image pickup unit (FIG. 1, element 10; the image pickup unit before face alignment; Col. 6, lines 36 - 47).

7. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6,108,437 A) in view of Dobashi (US 2002/0126880 A1) and Lobo et al. (US 5,781,650).

Regarding **claim 3**, while Lin in view of Dobashi discloses the personal authentication apparatus as claimed in claim 2, and while Lin in view of Dobashi discloses wherein when the particular person comparing unit decides that the degree of similarity is higher than a predetermined value, the authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user (refer to references/arguments cited in claim 2), Lin in view of Dobashi does not teach using the image pickup unit heightens resolution or gradation, taking the user's face-picture again, and said authentication unit deciding whether or not said user's face-picture having the enhanced resolution or gradation is identical with the face-picture of the user.

Lobo discloses an automatic feature detection and age classification of human faces in digital images (FIG. 1B) that includes extracting wrinkle features ("STEP 3: COMPUTE WRINKLE ANALYSIS" in Col. 23, line 49) by using an image pickup unit (FIG. 1B, element 10) to heighten resolution ("...take higher resolution images..." in Col. 23, line 65 – Col. 24, line 5) or gradation and taking the user's face-picture again (the process of taking higher resolution images requires taking the user's face-picture again).

Art Unit: 2624

It would have been obvious to one of ordinary skill in the art at the time the invention was made for

(i) the image pickup unit of Lin in view of Dobashi to heighten resolution or gradation and taking the user's face-picture again, and

(ii) the authentication unit of Lin in view of Dobashi to use the enhanced resolution or gradation image as one of its feature extractions (Lin, FIG. 9) to decide whether or not said user's face-picture having the enhanced resolution or gradation is identical with the face-picture of the user as taught by Lobo "...to provide a method of finding facial features exist from the detected human face...", Col. 2, lines 44 – 45 and "...to categorize age based on facial features, facial feature ratios and wrinkle analysis...", Col. 2, lines 49 – 50.

8. **Claim 6 and 9 – 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6,108,437 A) in view of Dobashi (US 2002/0126880 A1) and Lobo et al. (US 5,781,650) and Okazaki et al. (US 2002/0176610 A1).

Regarding **claim 6**, while Lin in view of Dobashi discloses the personal authentication apparatus as claimed in claim 2, wherein Lin discloses the image pickup unit (FIG. 1, element 10) takes the user's face-pictures as an animated image (Col. 5, lines 28 - 35),

the personal picture acquiring unit (FIG. 9, elements 905 through 919) acquires the animated image of the face-pictures of the user from said memory ("database" in Col. 1, lines 64 – 67 and Col. 5, line 63 – Col. 6, line 3), when said degree of similarity is higher than said predetermined value, said authentication unit identifies a similar face, Lin in view of Dobashi does not disclose when said degree of similarity is higher than said predetermined value, said

Art Unit: 2624

authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user by comparing a plurality of frames in the animated image of said user's face-pictures with a plurality of frames in the animated image of the face-pictures of the user.

Okazaki discloses a face image recording system (FIG. 4; FIG. 6) wherein an authentication unit (FIG. 6, element 30) decides whether or not the user's face-picture (FIG. 3, element 44) is identical ("the processor 31 records this image" in paragraph [0087] to further allow the decision whether or not the user's face-picture is identical) with the face-picture of the user by comparing a plurality of frames in the animated image (FIG. 3, FIG. 4, element 2; "video camera" in paragraph [0072]) of the user's face-pictures (FIG. 1, element 1) with a plurality of frames in the animated image of the face-pictures of the user (FIG. 17 wherein the animated image of the face-pictures of the user are the images from video taken over each login time).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the authentication unit of Lin in view of Dobashi to disclose deciding whether or not the user's face-picture is identical with the face-picture of the user by comparing a plurality of frames in the animated image of said user's face-pictures with a plurality of frames in the animated image of the face-pictures of the user as taught by Okazaki "...to provide a face image recording apparatus, face image recording system, information management system, face image recording method, and information management method which minimize the system installation cost while maintaining a security level meeting an intended use, and which realize highly "convenient" person authentication which is readily used by a user.", Okazaki, paragraph [0018].

Regarding **claim 9**, while Lin in view of Dobashi discloses the personal authentication apparatus as claimed in claim 2, wherein the personal authentication apparatus certifies that a

Art Unit: 2624

plurality of users is the user respectively, said particular person comparing unit compares the user's face-picture taken by the image pickup unit with the face-pictures of a plurality of the particular persons (refer to references/arguments cited in claim 2), Lin in view of Dobashi does not teach

a log holding unit for holding information of when the certification for each of said users is performed and whether or not said degree of similarity is higher than a predetermined value, the information being associated with the user,

said authentication unit decides what standard should be used for deciding whether or not said users are the user using said information held in said log holding unit.

Okazaki discloses a face image recording system (FIG. 4; FIG. 6) that teaches

a log holding unit ("record a user's face image as log data" in paragraph [0003]) for holding information of when the certification for each of said users is performed ("date and time" in paragraph [0135] is information associated with each user), the information being associated with the user,

said authentication unit decides what standard (FIG. 17; paragraph [0175]) should be used for deciding whether or not said users are the user (FIG. 6, elements 34, 38) using said information held in said log holding unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of Lin in view of Dobashi to disclose a log holding unit for holding information of when the certification for each of said users is performed and whether or not said degree of similarity is higher than a predetermined value, the information being associated with the user, said authentication unit decides what standard should be used for deciding whether or

Art Unit: 2624

not said users are the user using said information held is said log holding unit as taught by Okazaki "...to provide a face image recording apparatus, face image recording system, information management system, face image recording method, and information management method which minimize the system installation cost while maintaining a security level meeting an intended use, and which realize highly "convenient" person authentication which is readily used by a user.", Okazaki, paragraph [0018].

Lin in view of Dobashi and Okazaki would then inherently have a log holding unit that would store whether or not said degree of similarity is higher than a predetermined value when holding information of when the certification of each of said users is performed (from the personal picture acquiring unit of Lin in view of Dobashi).

Regarding **claim 10**, while Lin in view of Dobashi and Okazaki discloses the personal authentication apparatus as claimed in claim 9, Lin in view of Dobashi and Okazaki do not teach when said degree of similarity is higher than said predetermined value at plural times within a predetermined time, said authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user by a standard stricter than the standard used therebefore.

Okazaki discloses a face image recording system (FIG. 4; FIG. 6) that teaches wherein each of the plurality of particular persons (FIG. 6, elements 34, 38) is the suspected person (FIG. 4, element H), when said degree of similarity is determined at plural times within a predetermined time ("predetermined time" in paragraph [0087]), the authentication unit (FIG. 6, element 30) decides whether or not the user's face-picture is identical ("the processor 31 records this image" in paragraph [0087] to further allow the decision whether or not the user's face-

Art Unit: 2624

picture is identical) with the face-picture of the user by a standard stricter than the standard used therebefore.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of Lin in view of Dobashi and Okazaki to disclose wherein when said degree of similarity is higher than said predetermined value at plural times within a predetermined time, said authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user by a standard stricter than the standard used therebefore as taught by Okazaki "...to provide a face image recording apparatus, face image recording system, information management system, face image recording method, and information management method which minimize the system installation cost while maintaining a security level meeting an intended use, and which realize highly "convenient" person authentication which is readily used by a user.", Okazaki, paragraph [0018].

Lin in view of Dobashi and Okazaki would then inherently have an authentication unit, when said degree of similarity is higher than said predetermined value (from the personal picture acquiring unit of Lin in view of Dobashi), deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therefore.

9. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6,108,437 A) in view of Dobashi (US 2002/0126880 A1), Lobo et al. (US 5,781,650), and Prokoski et al. (US 5,163,094 A).

Regarding **claim 8**, while Lin in view of Dobashi and Lobo disclose the personal authentication apparatus as claimed in claim 3, wherein when said degree of similarity is higher

Art Unit: 2624

than said predetermined value, said image pickup unit takes said user's face picture by irradiating light to said user (refer to references/arguments cited in claims 2), Lin in view of Dobashi and Lobo do not teach wherein said image pickup unit takes the user's face-picture by irradiating an invisible light to the user, said authentication unit decides whether or not the user's face-picture is identical with the face-picture of the user using the user's face-picture taken by irradiation of the invisible light.

Prokoski discloses a method for identifying individuals from analysis of elemental shapes derived from biosensor data (FIG. 1) that includes extracting infrared features (Col. 4, lines 43 – 46; FIG. 5) by using an image pickup unit (FIG. 1, element 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for

(i) the image pickup unit of Lin in view of Dobashi and Lobo to irradiate an invisible light (infrared) to the user, and

(ii) the authentication unit of Lin in view of Dobashi and Lobo to use the infrared image as one of its feature extractions (Lin, FIG. 9) to decide whether or not the user's face-picture is identical as taught by Prokoski "...to provide a method for identifying individuals from biosensor data.", column 3, lines 19 – 21.

10. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 6,108,437 A) in view of Dobashi (US 2002/0126880 A1) and Colmenarez et al. (US 2002/0167403 A1).

Art Unit: 2624

Regarding **claim 14**, while Lin in view of Dobashi discloses the personal authentication apparatus as claimed in claim 2, Lin in view of Dobashi does not teach wherein said personal authentication apparatus is coupled to another personal authentication apparatus that is provided separately along the path though which said user passes, and wherein when said degree of similarity is decided higher than a predetermined value, said authentication unit acquires the user's face-picture from said another personal authentication apparatus, and decides whether or not the user's face-picture taken by the image pickup unit is identical with the face-picture of the user using said user's face-picture acquired by said another personal authentication apparatus.

Colmenarez discloses an automatic system for monitoring persons entering and leaving changing rooms (FIG. 1) wherein a personal authentication apparatus (FIG. 1, elements 5, 10) is coupled to another personal authentication apparatus (FIG. 1, element 5, 15) that is provided separately along the path though which a user passes (FIG. 1, element 65), and wherein when a degree of similarity is determined, a authentication unit acquires the user's face-picture (FIG. 1, element 20) from said another personal authentication apparatus, and decides whether or not the user's face-picture taken by the image pickup unit (FIG. 1, element 10) is identical with the face-picture of the user using said user's face-picture ("face-recognition is used" in paragraph [0009]) acquired by said another personal authentication apparatus.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of Lin to include wherein said personal authentication apparatus is coupled to another personal authentication apparatus that is provided separately along the path though which said user passes, and wherein when said degree of similarity is decided higher than a predetermined value, said authentication unit acquires the user's face-picture from said another

Art Unit: 2624

personal authentication apparatus, and decides whether or not the user's face-picture taken by the image pickup unit is identical with the face-picture of the user using said user's face-picture acquired by said another personal authentication apparatus as taught by Colmenarez so that "...the problem of comparing customer data is reduced to a comparison of images of the entering and leaving customers.", Colmenarez, paragraph [0030].

Lin in view of Dobashi would then inherently have an authentication unit such that said degree of similarity is higher than said predetermined value (from the personal picture acquiring unit of Lin in view of Dobashi).

Double Patenting

11. In response to applicant's claim amendments and remarks received on 9/24/2007, the previous double patenting rejection is withdrawn.

Response to Arguments

12. Applicant's arguments filed on 9/24/2007 with respect to **claims 2 – 14** have been respectfully and fully considered, they are not found persuasive.

13. **Summary of Remarks regarding claim 2:**

Applicant argues claim 2, as amended, recites "an authentication unit, when said degree of similarity is higher than said predetermined value, deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therebefore" and in contrast, the disclosure of Lin is directed to a face recognition apparatus that

Art Unit: 2624

extracts facial features from a person's image and compares the extracted facial features with a database of extracted facial features to identify the face. These teachings are insufficient to anticipate "an authentication unit, when said degree of similarity is higher than said predetermined value, deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therebefore," as recited in amended claim 2. There is no teaching or suggestion in Lin that is directed to when said degree of similarity is higher than said predetermined value, deciding whether or not said user's face-picture is identical with the face-picture of the user by a method stricter than the method used therebefore. Further, none of the other references cited by the Examiner teach or suggest this claim element in conjunction with the other claim elements. As such, Applicant respectfully submits that claim 2 is not anticipated by Lin. For at least this reason, it is respectfully requested that the outstanding rejection be withdrawn.

Claims 3 – 14 are allowable for the reasons set forth above based upon their dependency on claim 2.

14. Examiner's Response regarding claim 2:

However, the examiner must respectively assert the Applicant has added what appears an already implied feature (every computer algorithm in making decisions on some level must compare an output value with an already predetermined value whether it is a higher or lower comparison, as these decisions are not randomly selected) of the claimed invention. Lin's algorithm decides whether or not an image is similar to one stored in a database, and in doing so

Art Unit: 2624

must construct a value to be compared to an already predetermined value (to make the decision necessary).

While Lin may not directly suggest that the particular person comparing unit decides whether said degree of similarity is higher than a predetermined value, Dobashi discloses a face image recognition apparatus (FIG. 1) that teaches a particular person comparing unit (FIG. 1, element 107) commonly deciding whether a degree of similarity is higher than a predetermined value (paragraph [0055]). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the personal picture acquiring unit (in deciding whether said degree of similarity is determined) of Lin to decide whether a degree of similarity is higher than a predetermined value as taught by Dobashi “to provide a face image recognition apparatus, face image recognition method and passage control apparatus which can alleviate a lowering in the person recognition rate due to a variation in the face image caused by a variation in the standing position of a person and a variation in the face itself and recognize the face image with high precision.”, Dobashi, paragraph [0008].

Claims 3 – 14 are thus not allowable for the reasons set forth above based upon their dependency on claim 2.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2624

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2624


/David P. Rashid/

Examiner, Art Unit 2624

David P Rashid

Examiner

Art Unit 2624



VIKRAM BALI
PRIMARY EXAMINER